

**SEA SCOUT BASE**

**~ Sandvlei ~**

# **Seamanship Manual**

## **A. Watermanship**

**Pages 1-27**

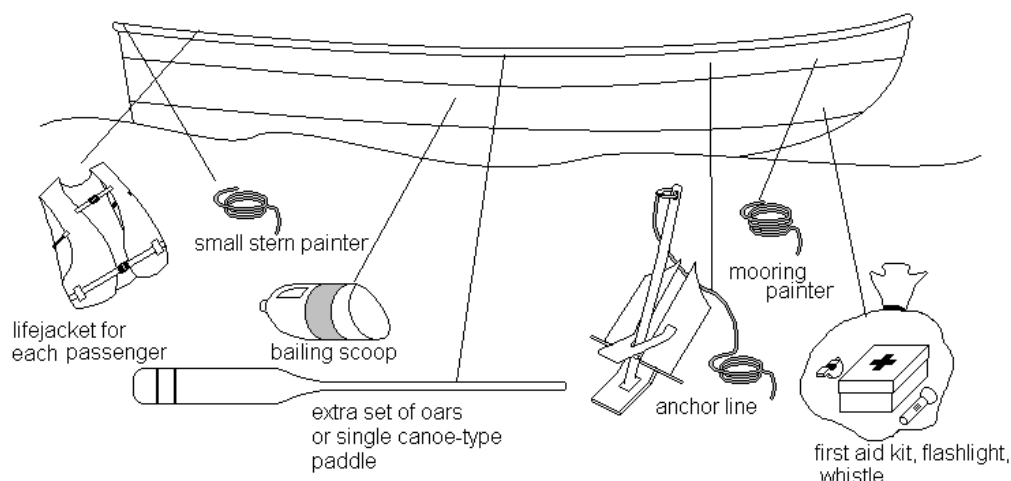
## **LOADING A BOAT:**

Statistics show that most common causes of boating accidents are overloading, and improper loading of small boats. Most fatal accidents caused by loading error involved boats less than 9 metres in length, and half of these vessels had 10 horsepower or less. The number of seats is not indicative of the number of passengers a boat can carry safely. A safe loading capacity depends on the boat construction and characteristics. Weather and sea conditions must also be considered.

There are several things to keep in mind before leaving the dock / jetty. Firstly, when loading a boat, distribute the weight evenly and keep the load low. Don't let anybody stand up in a small boat. A boat less than 9m can be very unstable with just one person moving around. If moving is necessary, stop or slow the boat. Keep your mass low and towards the centre line of the boat. Above all, don't overload your boat. An overloaded boat will easily swamp or capsize, because it cannot react to waves and other actions properly on water. If there is any doubt that the load is safe, it would be better to rather make two or three trips and err on the side of safety, rather than pleasure or tragedy. Remember that your boatload usually includes the number of persons (your full crew) as well as motor fuel and gear. Some boats have recommended weight capacity. These recommendations are for fair weather. However, they do not relieve the skipper of the responsibility for exercising his own judgement. If weather and water conditions are adverse, the load should be reduced accordingly. To unload, work slowly backwards.

## **BOAT SAFETY:**

- Know your boat – don't overload it. In a rowboat, one person per seat is a pretty safe rule.
- Balance your load. Distribute weight evenly from side to side and from bow to stern.
- Step into your boat. Step into the centre when boarding or changing seats, keeping low. Take a life preserver for each passenger in the boat.
- If your boat capsizes or swamps, hang on. You can kick the boat ashore or drift in, but don't leave it, let help come.
- Watch the weather. Head for shore when it looks stormy. If you are caught out, seat your passengers on the floor and head your boat into the waves.
- If you use a motor, use the right one. Too much power can damage your boat or swamp it.
- Do **not** use the rudder to scull.
- Horseplay between boats underway is strictly **forbidden**.



## **RULES OF THE ROAD:**

The importance of safety at sea has never been greater. Each year that passes, increases the need for everyone in charge of a vessel to be able to apply the Seaman's "Rules of the Road" quickly and correctly in order to navigate safely in our busy waterways, whether on inland waters or deep sea. The Inter-Governmental Maritime Consultative Organisation was responsible for the production of the "*International Regulations for Preventing Collisions at Sea, 1973*". The words *Rules of the Road* are just a convenient shortening of this long title. Where Special or Local Rules are made, they shall all conform as closely as possible to the International Regulations.

It must be remembered that courtesy and common-sense dictates that small boats stay clear of larger vessels, the reason being that a smaller craft is far more manoeuvrable than larger vessels. Nevertheless, if there is a possibility of a collision, the rules clearly apply to both large and small vessels alike. By obeying the **Rules**, we can make sure that there is a minimum danger of collision. It is up to you as Sea Scouts, and for that matter, every other Scout, who takes to the water in small boats, to make ourselves absolutely conversant with the local rules that apply wherever we may be operating.

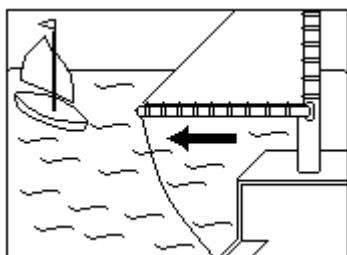
In term of *Rule3* General Definitions

- (a) The word *vessel* includes every description of watercraft including non-displacement craft (hovercrafts) and seaplanes, used or capable of being used as a means of transportation on water.
- (b) The term *power-driven vessel* means any vessel propelled by machinery.
- (c) The word *underway* means a vessel not at anchor, or made fast to the shore, or aground. Although underway, the vessel might not be making way (moving).

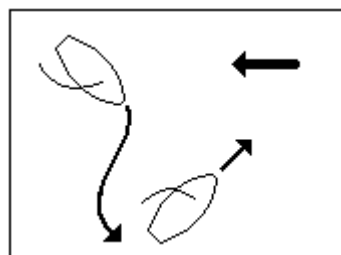
A dangerous or ignorant helmsman is just as much a menace on the water as a drunken or discourteous driver is on the road.

The sketches are designed to give the coxswain of a boat under oars, which for the purposes of these notes, is deemed to be a *power-driven vessel*, a picture of what he will see from his position on the tiller in the stern sheets. Similarly, the helmsman of a yacht has three basic principles to observe in *RULE 12*, which states:

- (a) When two sailing vessels are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other as follows:
  - (i) When each has the wind on a different side, the vessel, which has the wind on the port side, shall keep out of the way of the other (Figure 1 & 2).

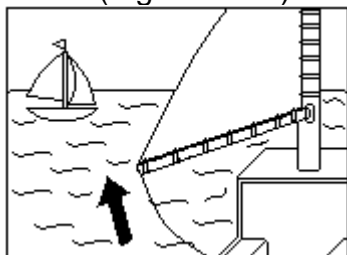


**1. STAND ON :** You have the wind on your Starboard side, the other vessel has the wind on his Port side. Yacht with wind on Port side must give way.

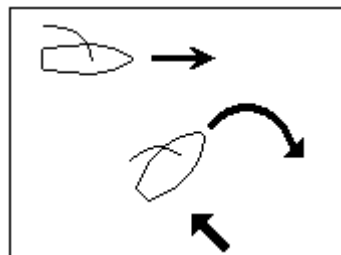


**2. STAND ON :** You have the wind on your Starboard side, the other vessel has the wind on his Port side. Yacht with wind on Port side must give way.

- (ii) When both have the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is to leeward. (Figure 3 & 4).

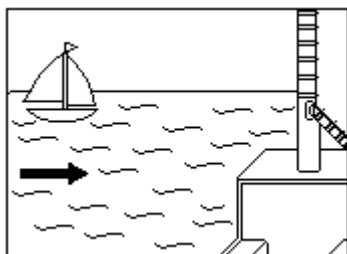


**3. GIVE WAY :** Both vessels have the wind on the Starboard side. Your vessel is to windward, therefore you must KEEP CLEAR of leeward vessel.

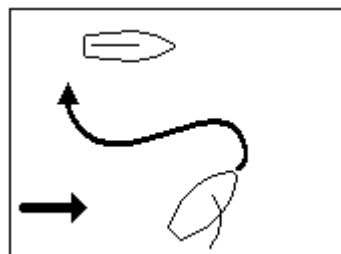


**4. GIVE WAY :** Both vessels have the wind on the Starboard side. Your vessel is to windward, therefore you must KEEP CLEAR of leeward vessel.

- (iii) If a vessel with the wind on the port side sees a vessel to windward and cannot determine with certainty whether the other vessel has wind on the port or starboard side, she shall keep out of the way of the other. (Figure 5 & 6)

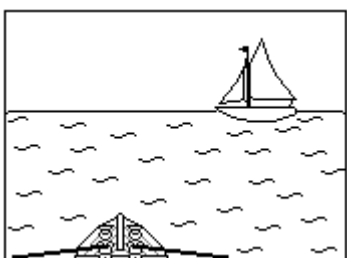


**5. GIVE WAY :** You have the wind on the port side and cannot determine with certainty on which side the vessel to windward has the wind, therefore you must KEEP CLEAR.

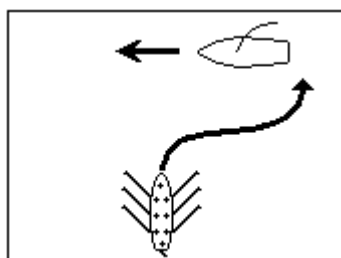


**6. GIVE WAY :** You have the wind on the port side and cannot determine with certainty on which side the vessel to windward has the wind, therefore you must KEEP CLEAR.

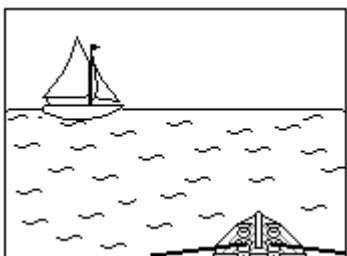
- (b) For the purpose of this Rule, the windward side shall be deemed to be the side opposite to that on which the mainsail is carried.



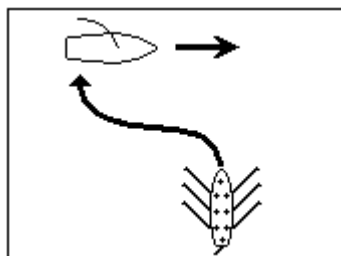
**7. GIVE WAY :** Alter course to Starboard in order to pass behind the yacht.



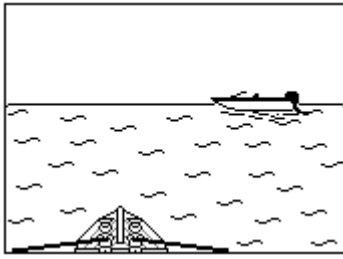
**8. GIVE WAY :** Alter course to Starboard in order to pass behind the yacht.



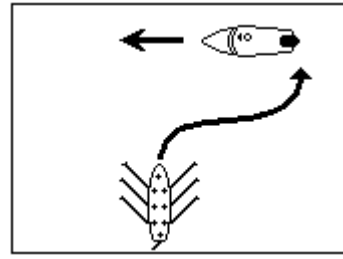
**9. GIVE WAY :** Alter course to Port in order to pass behind yacht. KEEP CLEAR.



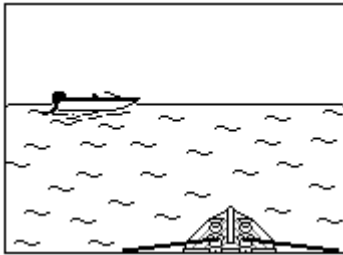
**10. GIVE WAY :** Alter course to Port in order to pass behind yacht. KEEP CLEAR.



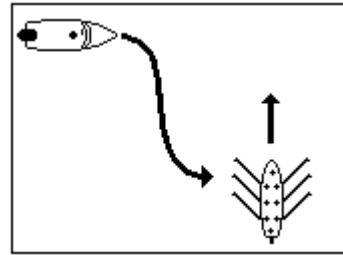
**11. GIVE WAY :** Alter course to Starboard in order to pass behind the motor boat. The vessel is on your Starboard bow, therefore you must KEEP CLEAR.



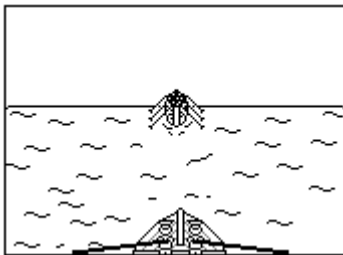
**12. GIVE WAY :** Alter course to Starboard in order to pass behind the motor boat. The vessel is on your Starboard bow, therefore you must KEEP CLEAR.



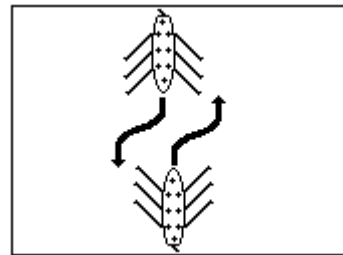
**13. STAND ON :** Hold your course and speed. The vessel is on your Port bow, you are on his Starboard bow. He must alter course to Starboard and pass behind you. You have the right of way.



**14. STAND ON :** Hold your course and speed. The vessel is on your Port bow, you are on his Starboard bow. He must alter course to Starboard and pass behind you. You have the right of way.



**15. Both vessels must alter course to Starboard. Pass Port to Port.**



**16. Both vessels must alter course to Starboard. Pass Port to Port.**

## LIFEJACKETS:

The most important thing about all water sports, is avoiding drowning, but you must use the right equipment for your specific purpose. Three main types of personal buoyancy aids are shown here.



### TYPE I

(Off-Shore Life Jacket) (6 ½kg – 8kg buoyancy)

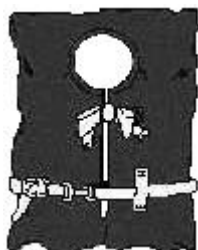
Best for open, rough or remote water, where rescue may be slow in coming.

**Advantages:**

Floats you best. Turns most unconscious wearers' face-up in water. Highly visible colour.

**Disadvantages:**

Bulky



### TYPE II

(Near-Shore Buoyant Vest) (8kg - 10kg buoyancy) Good for calm, inland water, or where there is good chance of fast rescue.

**Advantages:**

Turns some unconscious wearers face-up in water. Less bulky, more comfortable than Type I PFD (Personal Flotation Device). Inexpensive.

**Disadvantages:**

Not for long hours in the water. Will not turn some unconscious wearers face-up in water.



### TYPE III

(Flotation Aid) (16kg buoyancy) Good for calm, inland water, or where there is a good chance of fast rescue.

**Advantages:**

Generally the most comfortable Type for continuous wear. Freedom of movement for many active water sports. Available in many styles.

**Disadvantages:**

Wearer may have to tilt head back to avoid going face-down. In rough water, a wearer's face may often be covered by waves. Not for extended survival in rough water.



### TYPE V

(Hybrid Device) Required to be worn to be counted as a regulation

**Advantages:**

Least bulky of all Types. High flotation when inflated. Good for continuous wear.

**Disadvantages:**

May not adequately float some wearers unless partially inflated. Requires active use and care of inflation chamber.

## **PERSONAL BUOYANCY:**

Small boat sailing is an active sport. We move about rapidly, have to bend double as the sail and boom cross, dodge smartly round the kicking strap, lean over the fore-deck to pass a line, and even climb back on board when we fall overboard.

The waistcoat is an *active* garment whereas the full life jacket is a passive one. You have to actively swim or paddle to stay afloat in the waistcoat, though it does give a great deal of help, but also you can move actively when on board. On the other hand, you can passively lie back in the water and admire the sky in the life jacket.

Each person should make up his own mind which type to use, but for the type of sailing featured in these notes, we recommend the following features:

1. It must be absolutely simple to get on and off so that it is automatic to use it. The waistcoat is the only type at present, which meets this requirement. The smock pattern, which has to be pulled over the head, is not suitable for this reason.
2. The fastenings must be foolproof and completely simple to use, again so that the action of putting it on is automatic. Zips, if reliable and smooth acting, are fine. Toggles, belt and buckles, if not too fiddly, are quite good. Lacing and tapes can be potentially dangerous. It is harder to do them up correctly, and they can catch and either pull themselves undone or hang one up.
3. The jacket should be buoyant at all time and not easily damaged. Nearly all waistcoats satisfy this and some of the full life jackets have a permanent reserve, but their big air bag can be punctured.
4. It should not be too bulky or too buoyant in the wrong places. And inflated full life jacket can make it difficult to bend down and accidents are sometimes actually caused by the jacket. Its projecting front can also catch in ropes. In the water it is easy to float, but difficult to swim, owing to the front buoyancy. Self rescue is thus a problem and it can be nearly impossible to get back aboard boat owing to its bulk

## **IMPORTANCE OF WEATHER FORECASTING:**

Sailor, farmers and people planning parades, all worry about bad weather. But sailors certainly have the most to lose. Think about that the next time that you are tempted to take a small sailboat into threatening weather. When the thunderheads are piling up and the wind is rising unpleasantly, think survival. Go later!

But suppose the sun is shining and the sky is clear and the breeze is benevolent. Is it safe to go out? Not until you've checked out the weather report. Bad news may lurk behind fleecy white clouds.

Besides newspaper weather reports, you can get up-to-the-minute forecasts from radio and television. Also, check your local airport. Many radio and television stations broadcast weather reports 24 hours a day. Telephone services also provide continuous forecasting.

But someday, in spite of everything, you may be caught in a storm. What should you do?

First, order your crew to sit on the floorboards to keep the centre of gravity low and to reduce wind resistance. Head the boat at low speed into the wind and waves and make for the nearest shelter. If you can't make headway, drop the anchor, pay out plenty of line and lay low until the storm quiets down. You're much safer in your boat and always keep your lifejackets on. Always check weather clues against local experience. Learn to read the signs in the sky like a good woodsman reads signs in the forest. Nature puts her clues right up there for all to see – the colours in the sky itself, the appearance of the sun, the shape and density of the clouds.

Bright blue sky, for instance, usually means fair weather. A vivid red sky at sunset – fair tomorrow. The same sky at sunrise may mean foul weather the same day. Remember the jingle, "*red sky at night, sailors' delight. Red sky in the morning, sailors take warning.*" If the sky is grey and dull at sunset, foul weather tomorrow. A cloudless sky when the sun goes down means fair and cooler weather tomorrow.

A weak, washed-out looking sun may indicate rain. Cirrostratus clouds that blot out the sun usually signs rain. At sunset, diffused and glaring white means storm coming. A bad night usually follows when the sun sets in dark clouds and the barometer drops. The ball-of-fire sunsets (red at night) means fair and warm the next day. When the sun comes up out of a grey horizon, there's a good day ahead.

What are clouds? Merely fog in the air instead of down on the water or the earth. They're formed when the air aloft is cooled below the point where dew forms.



## **CLOUD IDENTIFICATION:**

High clouds travelling across the sky in the opposite direction from lower clouds, means unsettled weather, for instance. Fleecy, light-textured clouds usually mean fine weather and moderate breezes. Small, dark, oily looking clouds are a sign of rain. An increase of streaks and patches of white clouds on the horizon after a stretch of nice weather means a change, with wind or rain probable.

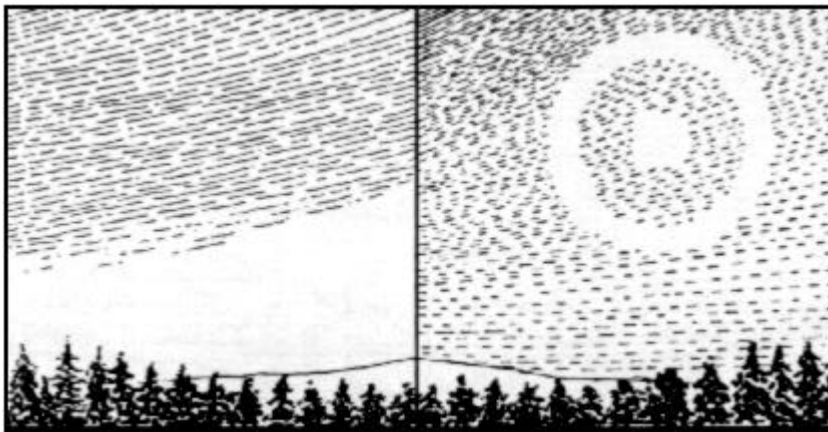
Since good sailors prepare for the worst, their surprises are usually pleasant. Not all storms are violent, but it is best to assume that they will be, and take the necessary precautions. Another way to put it is, "**BE PREPARED**".

In Cape Town, for example:

Indication of bad weather = falling barometer, north-west wind.

Indication of good weather = rising barometer, south-easterly winds, strato-cumulus clouds.

### **CIRRO-STRATUS**



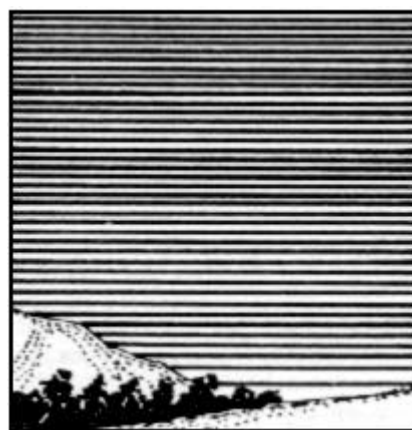
If these clouds thicken, there will be rain in 6 to 24 hours. If they slip a veil over the whole sky, a warm front storm is near.

### **ALTO-STRATUS**

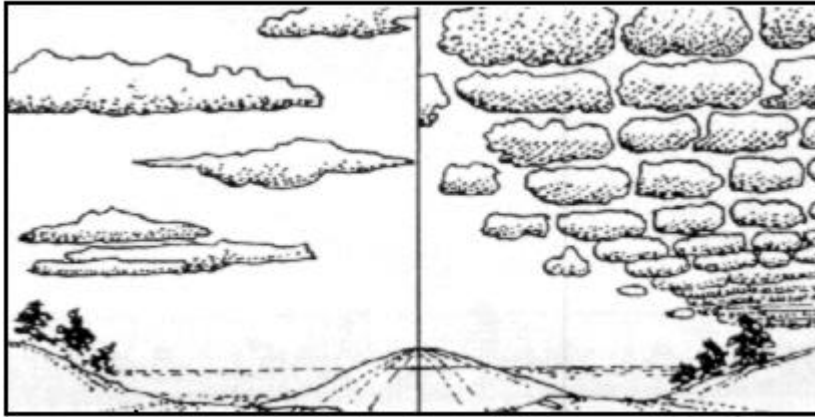


Indicates warm front or storm

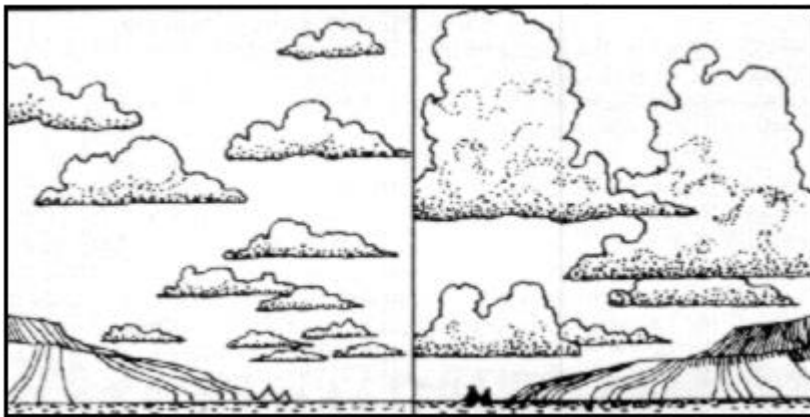
### **NIMBO-STRATUS**



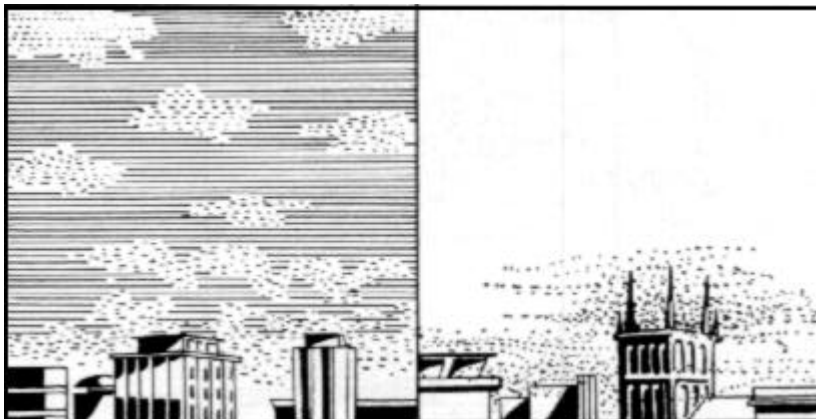
These are rain or snow clouds when thickening.

**STRATO-CUMULUS**

When these clouds become dense, expect rain. If they form after showers, weather will clear.

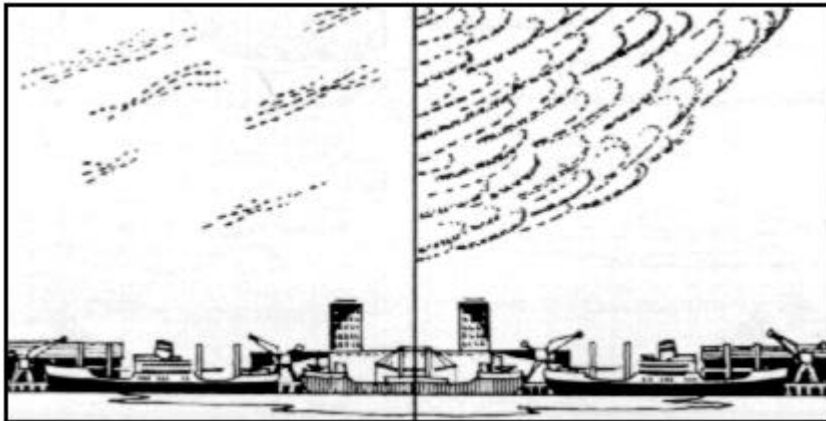
**CUMULUS**

If these clouds mass to windward (the direction from which the wind is blowing), they foretell a storm. If they grow in size on a summer day, there will be a thunder storm. In small, widely separated patches, they mean fair weather.

**STRATUS**

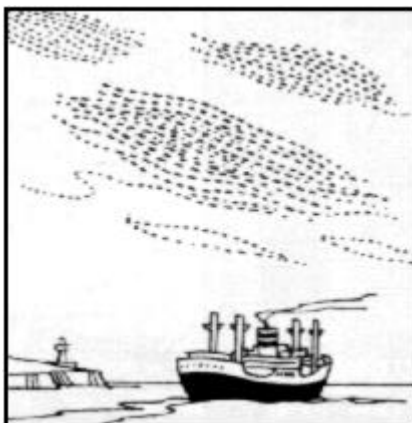
Indicate light, steady rain.

## CIRRUS



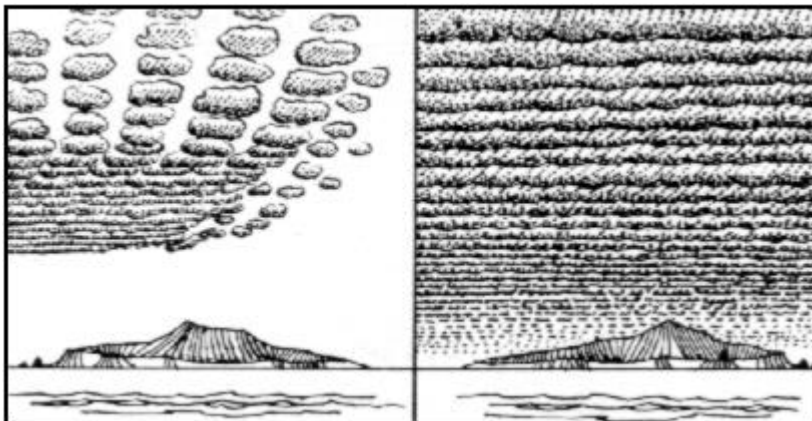
If they do not increase, if they drift idly or dissolve as the sun climbs, fair weather. Otherwise, rain or foul weather.

## CIRRO-CUMULUS



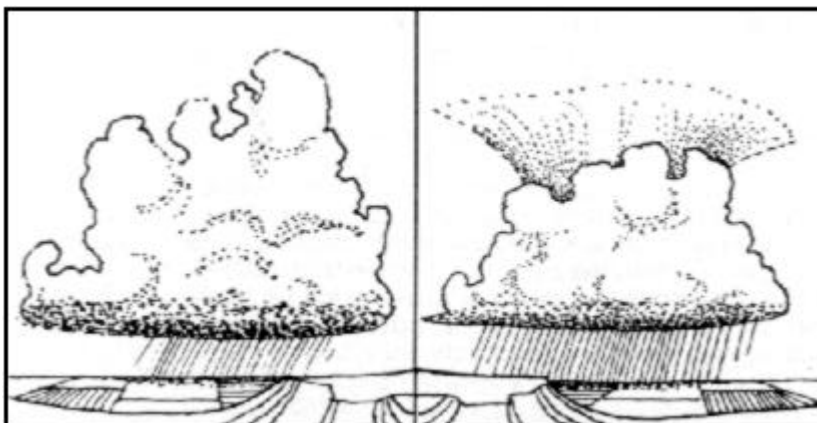
Indicates approach of weak disturbance, or, if increasing in density, rain in 24 hours.

## ALTO-CUMULUS



In small, isolated patches, or if dissipating, they mean fair weather. If piled up into domes, beware of thunderstorms.

## CUMULO-NIMBUS

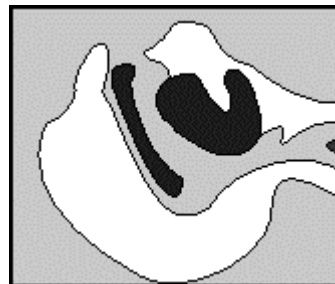
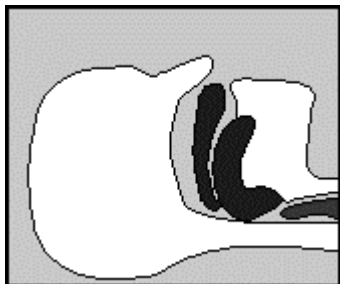


Cumulo-nimbus are the thunderstorm clouds and generally produces generous showers of rain or snow and sometimes hail..

## **RESUSCITATION:**

If a person stops breathing, severe damage to the brain can occur within four minutes, due to a lack in oxygen.

- 1, Without pause or hesitation, open the victim's airway by tilting his head back gently, using the "*pistol grip*". (He might start breathing immediately). Do a test with yourself Tilt your head forward, as far as it will go, onto your chest – you will notice that your breathing is very difficult.



2. If the person does not start breathing naturally after his airway is open, turn his head to the side and remove any obstructions, such as food or "loose" fitting false teeth. **DO NOT REMOVE FALSE TEETH IF THEY ARE TIGHT FITTING, AS THEY RETAIN THE SHAPE OF THE FACE,** the victim's mouth will relax, making it difficult to apply artificial ventilation.
3. With the victim on his back, tilt his head back gently, using the "pistol grip" on his chin. Press down with the other hand on his forehead.
4. Use the thumb and forefinger of your hand on his forehead to pinch his nostrils shut. Then take a deep breath, open your mouth wide, and seal it over the victim's mouth.



5. Force your breath into his lungs. Look to see if his chest rises. (Look, Listen, Feel)
6. Remove your mouth. Take a deep breath. Look to see that the victim's chest falls as he breathes out.



7. Repeat steps 3 & 4 every five seconds for adults and every three seconds for a child. When the victim's breathing starts, time your procedure to fit his efforts to breathe for himself. Don't give up. Continue artificial ventilation until the victim starts breathing and the colour of his face and lips start to turn pink again. You can then stop artificial ventilation.

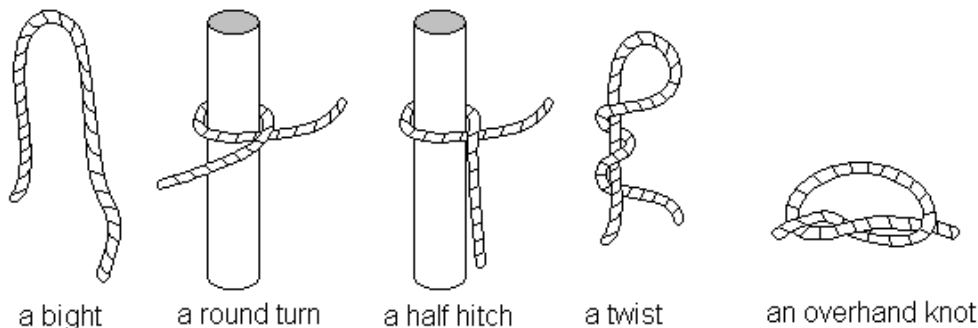
Then place the victim in the **recovery position**.  
**NEVER LEAVE THE PATIENT ALONE.**  
 His breathing may stop again or he may vomit.



## **BENDS AND HITCHES:**

### ***ELEMENTS OF BENDS AND HITCHES:***

Most bends and hitches consist of a combination of two or more of the elements illustrated in the sketch below:



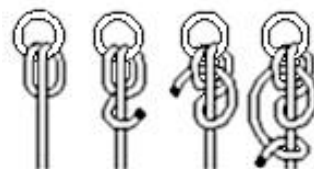
### **Round turn and two half hitches:**

This combination is used to secure a heavy load to a spar, ring or shackle, such as a buoy shackle of a mooring buoy. It will never jam and can be cast off quickly. The end should be stopped to the standing part.



### **Fisherman's Bend:**

It is used when securing a hauling line to the ring of the Kedge, or for bending a rope to a bucket, etc. It is often called a bucket hitch.



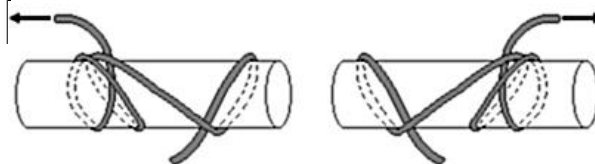
### **Bowline:**

One of the simplest and most useful way of putting a fixed loop into the end of a rope.



### **Rolling Hitch:**

Used to secure a rope to a spar when the pull is expected to be from one side or the other, and to another rope under strain.



### **Water Bowline:**

When a rope has to be pulled through water, any knot has a tendency to tighten and jam. In the case of a Water Bowline, an extra hitch as shown will lessen this tendency.



### **Sheet Bend:**

Also known as the single halyard bend, is usually used to join together two ropes of different diameters.



### **Double Sheet Bend:**

While making a sheet bend, pass the thinner line round the bight a second time, then tuck it under its own standing part. It is a more secure version of the sheet bend.



### **Carrick Bend:**

This bend is used to join two thick lines together. It is very secure and simple to make and quick to release.



### **Synthetic Rope:**

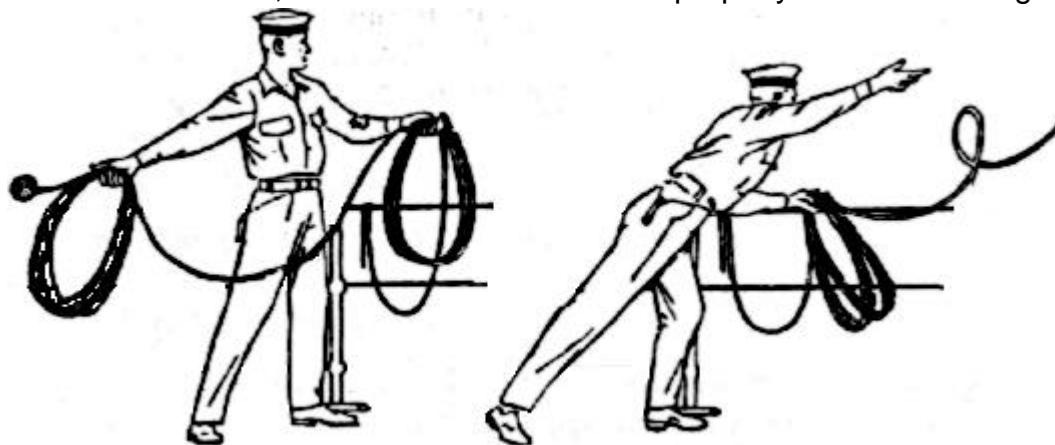
There are two methods of preventing a synthetic rope from fraying. First – heat the end of the rope with a flame. Once the rope melts, wet your fingers and shape the end into a point. Secondly, you can heat a knife until red hot and just cut the rope.

## **THE HEAVING LINE:**

As its name implies, a heaving line is a light flexible line that can be thrown. It is used as a messenger to pass hawsers from ship to shore, or vice versa. Signal halyards are very flexible and make excellent heaving lines.

A heaving line consists of approximately 12m of 8mm cordage, rot-proofed or natural, and well stretched. Although it cannot be thrown much further than a distance of 12 fathoms (22 meters), the extra length often proves extremely useful. One end should be whipped and the other weighted with a monkey's fist, a small sandbag or a heaving line knot. To weight a monkey's fist with a heavy nut, as is sometime done, is dangerous and inexcusable.

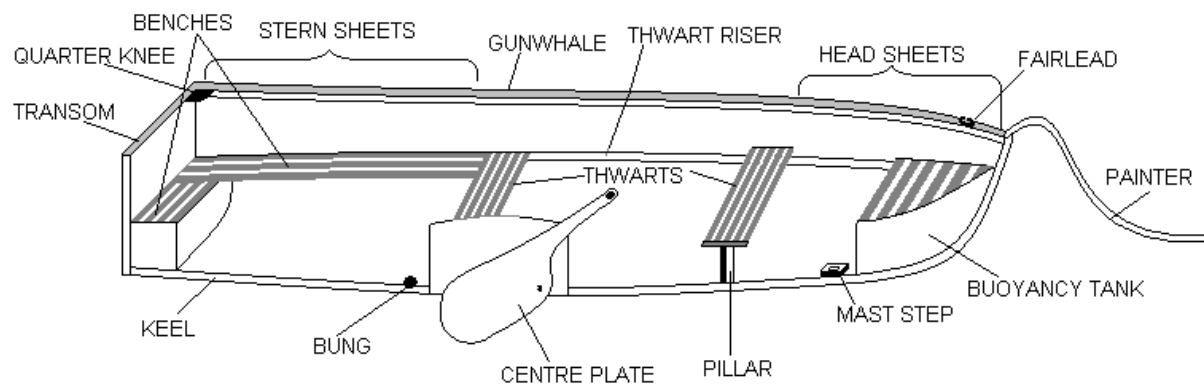
To prepare a line for throwing, it should be wetted, and from 10 metres, should be coiled carefully in the left hand, using rather small coils. One-third of the line is taken in the right (or throwing) hand; the line is then thrown with the right arm straight, and it must be allowed to run out freely from the coil in the left hand. The most frequent cause of bad casts, is a failure to have this coil properly clear for running.



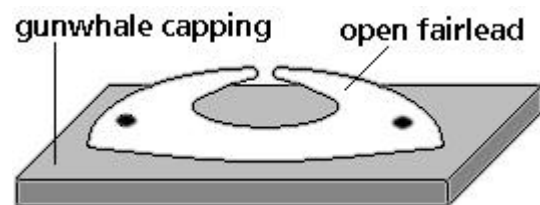
There is more than one method of heaving a line and most good throwers have their own variations. Some men take rather less than half the coil in the right hand and throw both halves together, letting go with the right hand before the left. This method is very effective, but harder to learn, and to achieve a good throw by the first method is generally sufficient.

Many seamen think that they can heave a line further than they can. 10m is a good cast. Before heaving a line, the standing end must be made fast (to the top guard rail, for example) with a clove hitch. Many a good throw has been rendered abortive and valuable time wasted through omitting to secure the standing end first. As soon as the heaving line has been caught, the standing end should be bent to the hawser. Remember that a heaving line is only meant to take the strain of the weight of the hawser while it is being passed ashore or into the ship.

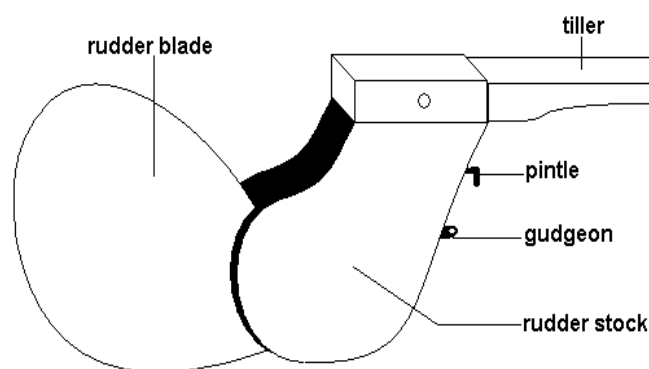
## PARTS OF A BOAT:



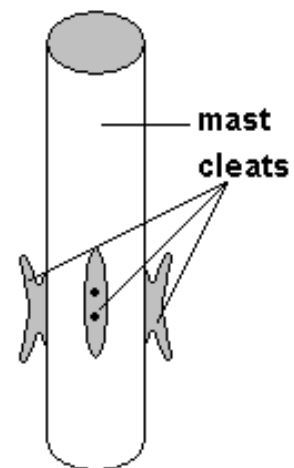
## THE FAIRLEAD:



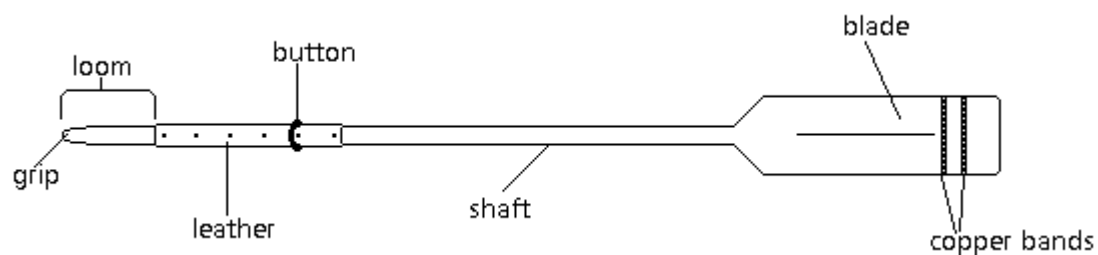
## PARTS OF THE RUDDER:



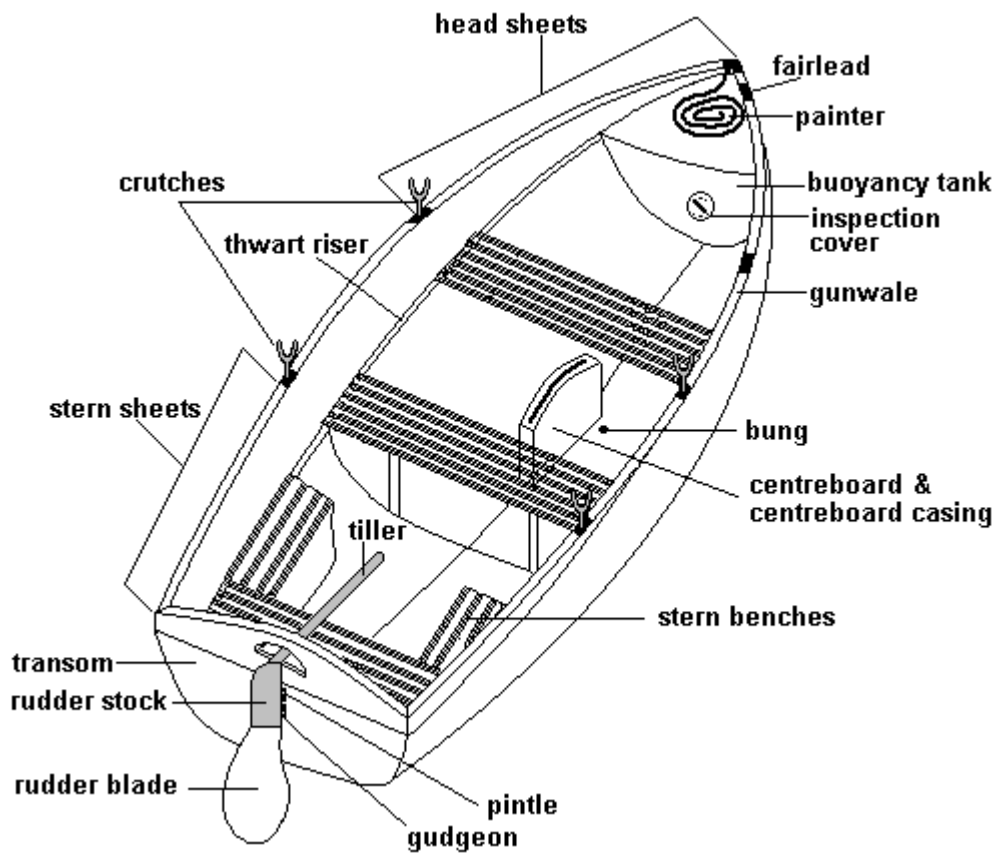
## PARTS OF THE MAST



## PARTS OF THE OAR:



## **PARTS OF A PULLING BOAT:**



## **NOTES ON ROWING:**

A complete stroke is broken into four basic points as follows:

- CATCH** Placing the blade in the water ready to pull.  
**PULL** Sweeping the blade back to get headway.  
**FEATHER** Blades come out of the water at a 45° angle, and as you come forward, the oar blades are flat with the water's surface.  
**RECOVER** Swinging the oars to the CATCH position, then a slight pause before the CATCH again.

### **Common mistake to be rectified by:**

- Shift position of the hands outwards.
- Keep elbows to the sides.
- Keep arm parallel.
- No hands under the oar.
- No hands over the end of the loom.
- Wrong angle of the oar blade.
- Two-thirds of the oars' blade in the water – NO MORE!
- On recover stroke, keep the oar parallel to the water and feathered (this is done by twisting the wrist down and away from you).

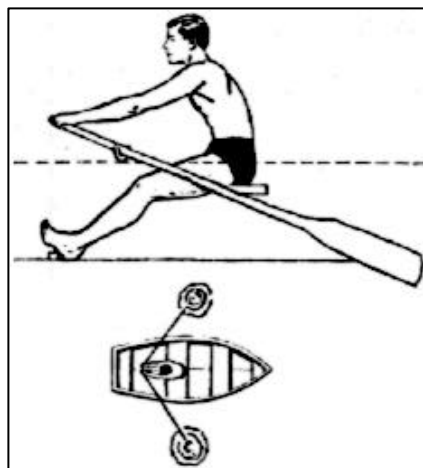


## THE FOUR PARTS OF THE STROKE:

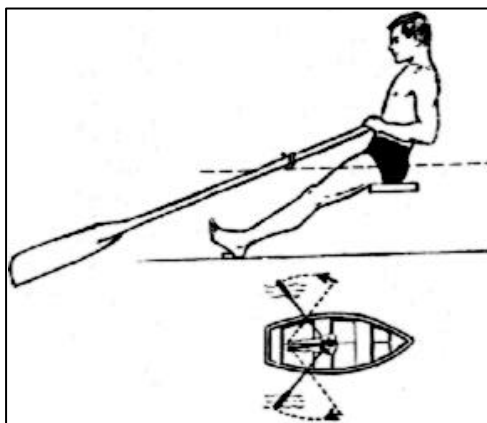
### 1. CATCH

Keeping your back straight, bend your body forward. Raise the oars handles slightly, and drop the blades edgewise into the water. You are now ready to pull.

Catch



Pull



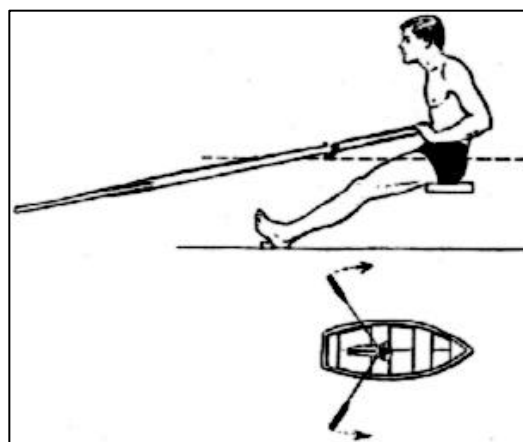
### 2. PULL

Swing your body backwards with your arms straight. Then bend your arms and pull the oars through the water with the body erect, elbows close. To give the pull full power, keep the upper edge of the blades at the surface of the water, your hands as level as possible. Use your back to pull, **not** your arms. They should move fore and aft in a smooth motion.

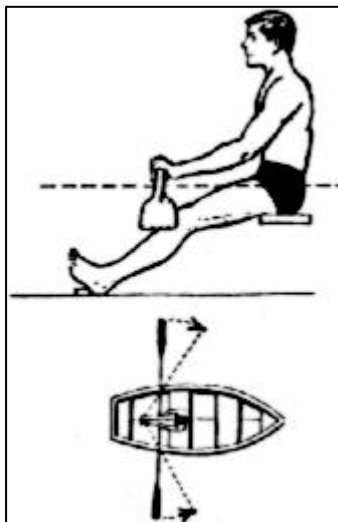
### 3. FEATHER

As the "pull" is finished, dip your wrists to turn your knuckles up – just a little – so that the blades come out of the water at about a 45° angle, and as you come forward, the oar blades are flat with the water's surface. The flat blade decreases wind resistance and also looks smart. It is important that the twisting action be done only when the blade is out of the water.

Feather



Recover



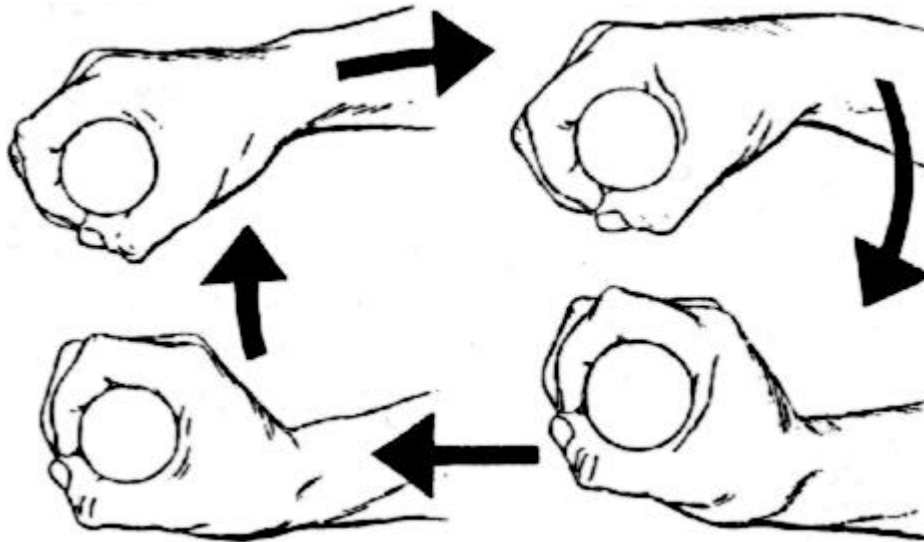
### 4. RECOVER

Move your oar blades into place for the next "pull" by swinging your body towards the stern. Your wrists turn, ready once again to assume the "catch" position.

### Position of the hands for the 4 parts of the stroke:

1. **CATCH:** raising the handle of the oar so that the blade enters the water edgewise

2. **PULL:** exertion on the oar causing the blade to sweep through the water.



3. **FEATHER:** started before and used during the recovery part of the rowing cycle. Act of placing the blade in a flat position – parallel to the water.

4. **RECOVER:** withdrawing the blade from the water and assuming the original position.

**Tips for the Coxswain:**

- To turn about on the spot – **backwater Port, give way Starboard** or vice versa.
- If the boat's stern tends to swing when going astern, reverse the tiller.
- Tiller – never more than 45 degrees either way from the centre line.
- When rowing against strong wind, put passengers and loose crew in the bows.
- **Do not** allow anyone in the boat to rest his/her arms or elbows on the gunwale.
- Give your commands in a clear, firm manner - plan your manoeuvres beforehand.
- Do not allow any talking on the boat – **Keep discipline.**

Coxswain fall his patrol in, number his patrol from the right for the following crafts:

**SALDANHA DINGHIES:**

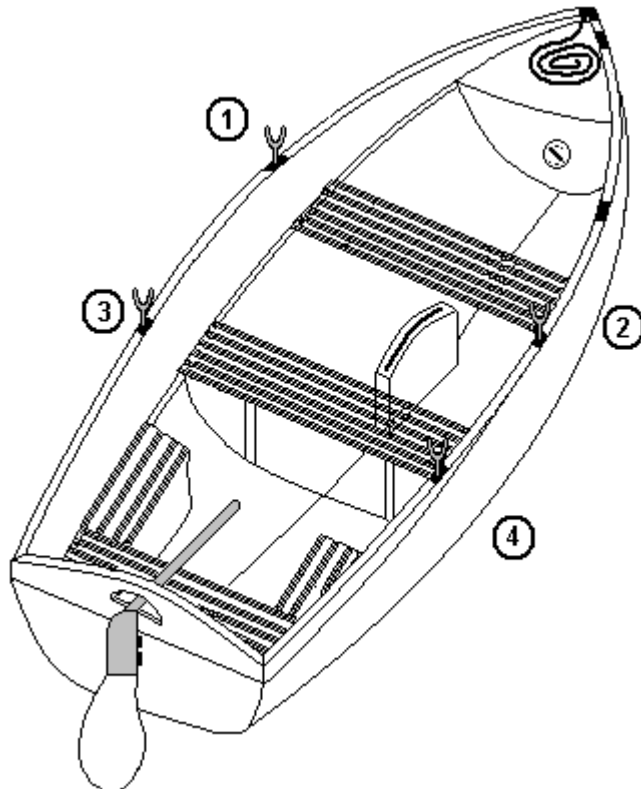
- |           |                  |
|-----------|------------------|
| 1         | Bowman           |
| 2 to 3    | Rowing positions |
| 4         | Stroke           |
| Remainder | Spare crew       |

**WHALERS:**

- |           |                  |
|-----------|------------------|
| 1         | Bowman           |
| 2 to 4    | Rowing positions |
| 5         | Stroke           |
| Remainder | Spare crew       |

**CUTTERS:**

- |           |                  |
|-----------|------------------|
| 1         | Bowman           |
| 2 to 5    | Rowing positions |
| 6         | Stroke           |
| Remainder | Spare crew       |

**BOARDING DRILL:**

**Coxswain:** Hands his patrol over to his Stroke and enters the boat to check gear. If the boat is already in the water, he ships rudder and tiller and places the crutches on the respective thwarts. Coxswain then instructs the crew to take up their positions by numbers.

**No1. Bowman:** goes to the forward bollard.

**Last Rowing Position:** goes to the after bollard.  
They wait for further instructions.

**Remaining Crew:** take their places and ship and fasten their crutches – then boat crutches and sit at attention. No.2 and second last Rowing position, ship and fasten crutches for the crew attending the bollards.

Spare crew take up their places next to the coxswain or in the bows as directed.

**Note:** Any of the spare crew may be used as Bowman in place of No.1. If this is the case, then No.1 takes up his rowing position at the same time as the remainder of the pulling crew. This also applies to the crewmember attending the after bollard.

## **PULLING COMMANDS:**

### **“LOOSEN UP FORE AND AFT”**

No's 1 and 6 loosen fore and aft painters and pass them behind the bollards and back into the boat. No's 1 and 6 loosen, then take up their positions in the boat, holding the painters firmly to keep the boat steady. **There must be no talking by the crew or passengers.**

### **“SIGHT YOUR OARS”**

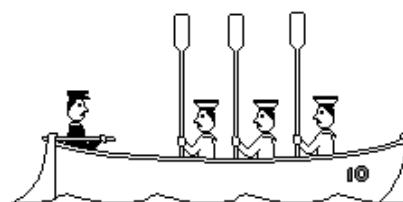
Oars to be checked and selected. **Note:** No1's oar lies on the centre line of the boat with the blade facing forward. The oars of the rest of the crew lie with the blades aft.

### **“SHIP YOUR CRUTCHES”**

After the crutches are fitted and positioned fore and aft, with the long lip towards the bows, and when the coxswain is satisfied that all is ready...

### **“TOSS YOUR OARS”**

This is the order to bring the oars smartly to a vertical position, with the looms resting on the bottom boards and the blades fore and aft. It is also given for a salute, but before this is given, the caution “STAND BY TO TOSS OARS” should be given.



### **“LET GO FORWARD”**

Bowman hauls in the painter and gives a firm push to allow the bows to swing clear. Aft painter holds the stern back.

### **“BOAT YOUR FENDERS”**

### **“LET GO AFT”**

No.6 hauls in the painter.

### **“BEAR OFF THE BOAT”**

If necessary, by using the loom (**NOT** the blade) of the oar or a boat hook.

### **“SHIP OARS”**

Oars are placed in the crutches where the shaft joins the blade, and are pushed out parallel to the water. Bowman and No.6 coil up painters and take up their positions.

### **“STAND BY”**

All lean aft with arms straight in front of the body, hands shoulder width on the hand grip and loom of oar, blade of the oar just above the water with blades at an angle of 45 degrees – top of the oar aft.



### **“GIVE WAY TOGETHER”**

The whole crew starts pulling. Keeping in time with the stroke oar.



### **“OARS”**

Given when the blades are in the water – complete one further full stroke and bring the oars to SHIP OARS position, blades parallel with the water.

**“HOLD WATER”**

This command is obeyed immediately and is used to stop the boat by holding the oars at right angles to the water against the forward movement of the boat.

**“HOLD WATER PORT” or “STARBOARD”****“GIVE WAY PORT” or “STARBOARD”****“BACKWATER PORT” or “STARBOARD” or “TOGETHER”****“CROSS OARS”**

Oars are slid across so that the looms rest on the opposite gunwale.

**“TRAIL OARS”**

To avoid an obstacle, whichever side is indicated or both sides bringing the oars fore and aft, by leaning back and passing the loom over your head, being ready to lift oars inboard out of the crutches, if necessary.

**“EASY ALL”**

Slow or ease the stroke.

**“WAY ENOUGH”**

One more stroke of the previous order, then the crew lean back and pass the loom of the oar over their heads – blades being aft.

**“OUT FENDERS”****“BOAT YOUR OARS”**

From the position of WAY ENOUGH with the blade of the oars close up to the crutch, the oar is lifted up out the crutch and laid (blade aft) in the centre line of the boat, except the Bowman's oar, who lays his oar with the blade forward.

**“BOWS”**

The Bowman prepares to fend off bow from the wharf and on contact moves boat forward to bring it alongside. No.6 must be prepared to either throw or receive a line.

**“BOAT YOUR CRUTCHES”****“MAKE FAST”**

Bowman and No.6 make painters fast on the bollards.

**“FALL IN”**

Crew fall in on the wharf, Stroke No.5 in charge. Coxswain remains in the boat to check that all is secure. Boats the rudder and tiller, collects the crutches, leaves the boat, checks the mooring (making sure that Bowman and No.6 have allowed for the rise and fall of the tide). Coxswain then reports to his Watch Officer that all is secure.

**REMEMBER: Always keep eyes in the boat and no talking.**

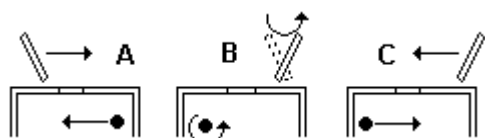
**Note:** When coming up to a mooring or a buoy, always make your approach into the wind, but if the current is running stronger than the wind, then come up against the current.

## SCULLING OVER THE STERN:

**NB: do NOT use the rudder to scull – you WILL damage your rudder.**

Sculling over the stern is not particularly easy, but it is straight forward if the mechanics of it are understood. It is usually harder work than rowing, so if a pair of oars are available and there is enough room to use them, rowing is preferable.

The oar gets its thrust by being levered across with the blade at an angle (fig. A). At the end of the stroke, it is turned with the same side aft (fig. B) and drawn back (fig. C).



The tendency to move the boat sideways is cancelled out by the changing directions, but the forward component of the thrust remains.

The difference between the two angles of the blade is about a right-angle. The effect is obtained by bending the wrist fully forward when pulling across (fig. F) and fully backwards the other way (fig. E).



Concentrate on one hand and regard the other as merely providing extra power. As soon as the elements of sculling are mastered, try standing sideways and sculling with one hand while looking forward. Steer by pulling harder one way or by alternating the blade angle.



## **BRINGING ALONGSIDE AND MAKING FAST:**

You've learnt how to get into a boat, how to trim it, how to launch it, how to row in a straight course and how to turn it. But you can't just stay out there forever, so you must learn the technique of landing a boat properly, which means more practising.

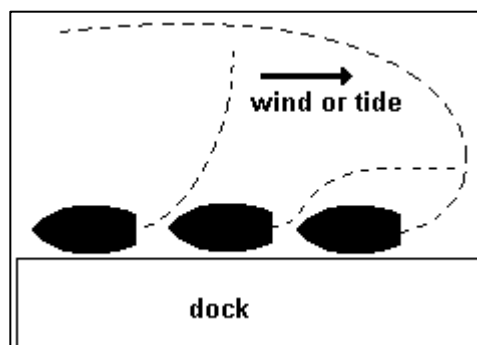
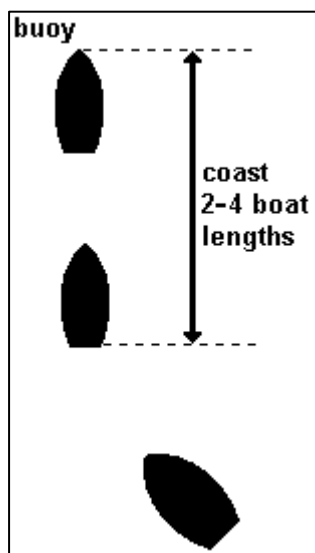
If you are rowing on a lake or dam where the water shallows at the banks, it is customary to land a rowing boat bow first, to ship the oars and then, while someone holds the bow, to come forward and hop over the bow.

However, if you are in reasonably deep water and you wish to land at the bank or alongside a landing jetty or pier, or to tie up to a buoy, it is necessary to come alongside.

Practice approaching the jetty, bank or buoy correctly. Begin your landing manoeuvre 7 meters or more from the jetty. If you can, you should come in against the wind or tide – whichever is the stronger. Watch what you are doing.

When the bow is a few feet from the jetty, let the oar on the landing side trail for one stroke, and give the other an extra hard pull. Quickly boat the oar on the landing side as you come alongside. Then, after shipping the other oar, and holding the painter in your hand, scramble onto the jetty and make the boat fast.

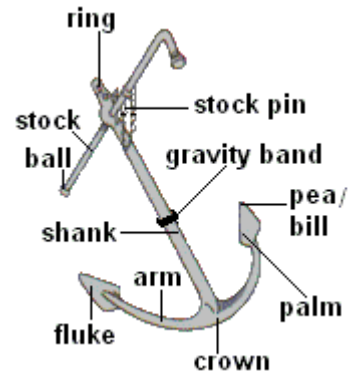
The last lesson is: what do you do if the boat gets swamped or overturns? That's not so tough – just stay with the boat, which will float, until someone comes to your rescue.



## **ANCHORS:**

### **Admiralty Pattern:**

The Admiralty Pattern is the traditional anchor, consisting of a solid shank with two arms. The stock is fitted at right angles to the arms, so that when the stock lays flat on the seabed, one of the arms will be sticking into it. For ease of stowage, the stock is designed to fit flat against the shank.



### **Grapnel Anchor:**

The grapnel is a development of the grapnel used in Elizabethan days, when crews of fighting ships wished to board each other. Fitted with between four and six prongs.



### **Folding Anchor:**

The folding anchor is probably the most useful of all small boat anchors. When not in use, the arms fold up against the shank and are held in place with a sliding ring.



## **ANCHORING:**

### **Type:**

- Broad fluke for sandy bed
- Narrow fluke for rocky bed.

### **Weight:**

Sheltered waters, i.e. slow-moving river or lake – 1kg anchor weight for every 20kg of boat weight. Therefore, a boat of approx. 150kg, requires a 7.5 kg anchor.

### **Anchor Chain:**

Fitted to shackle at the head of the anchor to hold the anchor flat on the bed. Size to suit anchor and length should be approx. twice the length of the anchor shank.

### **Anchor Rope:**

Attached to the opposite end of the anchor chain, so the anchor rope should be of size and breaking strain to suit boat. Length of rope should be at least three times the depth of the water.

### **NOTE:**

In tidal waters, it is necessary to know the state of the tide and the amount of the rise and fall. Therefore : on a lake with a depth of 3m, the rope should be **3m x 3 = 9m**.



## **ANCHORING:**

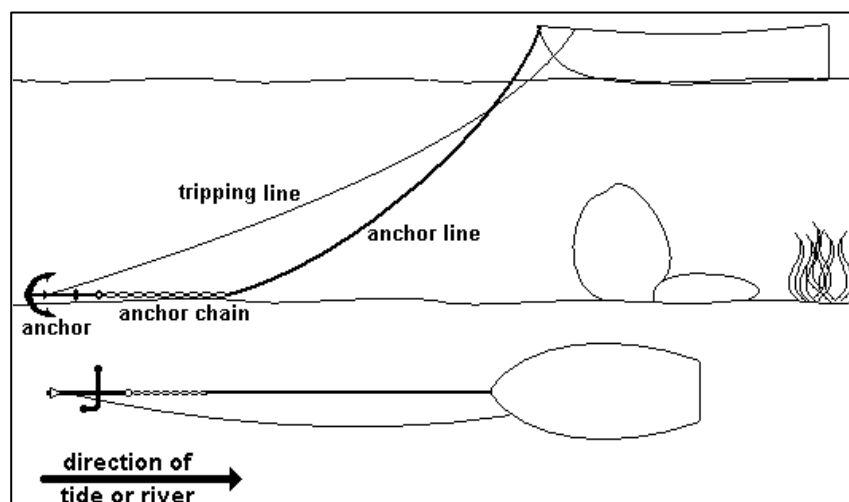
There are certain basic steps to be taken in anchoring small boats under normal conditions:

### **Approaching the anchorage:**

Do not anchor where it is so shallow that there is the possibility of being aground in low water. Conversely, you need not anchor in 15m of water if you can find 7m a little close to shore. One prudent rule in strange waters is to check the depth of the water in the area of any possible swing of the boat with a lead line. Note the location of other boats or empty moorings, so that you will not anchor so close to boats that you swing into others with shifts of wind or tide. As we mentioned before, hard sand is first choice for the bottom. Soft mud is the last. A rocky bottom is generally between the two. However, you cannot know just what the bottom is until the anchor is down.

### **Dropping anchor:**

Under power or sail, come up to your chosen anchorage into the wind or tidal current (whichever is stronger). Under power, bring the boat to a stop and then reverse very slowly. At this point, a crewmember already stationed forward lowers the anchor gently, always maintaining control of the cable. **Never throw an anchor!**



Reverse the boat slowly as the cable is paid out to keep the anchor from being fouled. Keep reversing until it takes hold and sufficient scope (the ratio of the length of an anchor line, from a vessel's bow to the anchor, to the depth of the water) has been paid out. If the anchor drags at this point, it is usually because the anchor has been fouled or resting on poor holding ground at the bottom. If it does drag, then you must raise the anchor and try again. Once the anchor takes hold, check to be certain you are clear of the shore and other boats before shutting off the engine. Under sail, of course, you cannot reverse your boat to help you take hold. However, in coming in against the wind or tide, you can use them as a natural reversing power. At the moment you come to a standstill, drop the anchor quickly, but smoothly, and pay out ample scope. Then belay the rode (the anchor line and/or chain) to the bitt or a cleat and wait until you are certain the anchor is not dragging.

### **Leaving the boat:**

Before going ashore after properly anchoring, make a careful note of the boat's relative position to other boats, or better still, to nearby shore objects. By doing this, you can spot a change in your boat's position caused by the anchor dragging. If a boat stays at anchor during a change of tide or wind shift, she may swing through a 180° arc. This movement can foul the rode of some types of anchors, twisting it around an arm or stock, causing the fluke to be pulled from the bottom. Under these conditions, it is wise not to leave the boat unattended.

## **WEIGHING ANCHOR:**

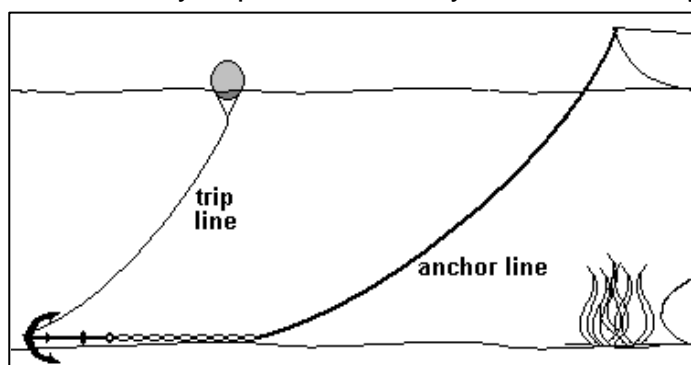
When under power, move slowly toward the anchor while a crewman forward, hauls in the slack of the cable. When the anchor breaks loose, come to a stop while he brings in the anchor. This must be done carefully to avoid gouging the boat. If your boat has too much headway while bringing it in, there is a possibility of damaging it with the anchor.

When the anchor is brought aboard, it should be secured at once. The wet line should be allowed to dry before stowing.

If the anchor does not break loose easily, bring the boat carefully up to the approximate position of the anchor and belay the rode to the foredeck bitt. After this, apply just enough power to give steerage way and run the boat passed the anchor. If it does not work the first time, repeat this manoeuvre again.

Under sail, you can usually sail right up to the anchor, while a crewman takes in the slack slowly, and raise the anchor as described above. If the anchor is firmly embedded in the bottom, you may have to sail forward to put added strain on the rode in the opposite direction to the anchor pull.

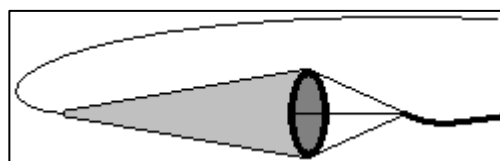
If you know beforehand that the bottom, where you plan to anchor your boat, is likely to foul, use a trip line. This is merely a light, but strong line secured to the crown of the anchor, long enough to reach a buoy on the surface. When the time comes to weigh anchor, the buoy is retrieved and the trip line pulled to haul in the anchor, crown first.



Sometimes it is necessary to carry the anchor away from the boat in a small dinghy. The boat is then pulled towards it by means of capstans or winches. This is called **kedging**. Grounded vessels sometimes pull themselves clear in this manner.

When a boat lies most often at her home port, it is best to set a permanent mooring, this would make her more secure than being at anchor. A safe permanent mooring must be able to hold in any weather conditions. It must be as anti-foulable as possible.

Sometimes, when sailing at sea, one could find oneself in difficulties in a bad storm, with the possibility of being swamped by the waves breaking over the boat. In such circumstances, it would be wise to head up into the wind and sea and set a **sea anchor**, and ride out the storm. A sea anchor is usually made of canvas, in a conical shape, with a steel ring sewn into the wide end. The pointed end should be open. The sea anchor can be set to either the bow or stern of the boat, depending on the running swell and wind conditions.



## **RESCUE PROCEDURES:**

### **RESCUE A CONSCIOUS PERSON FROM THE WATER:**

(i) **ROWING RESCUE:**

Two men should use a rowing boat and row out to victim. As you approach the victim, get ready to pivot the boat (i.e. turn so that the transom is facing the victim).

Extend a pole to be grasped by the victim. Pull the victim towards the transom of the boat with the pole. Rescuer holds victim at transom of boat as they return to shore. If possible, victim can board the boat over the transom.

(ii) **CANOE RESCUE:**

Rescuer approaches victim slowly. Rescuer extends paddle to the victim. Rescuer braces on, sculls to compensate for added weight as the victim climbs aboard.

The competent swimmer follows a prescribed pattern, planning his rescue and considering his options before any action is taken. He uses the easiest, safest, fastest means at his disposal. This planning must be done quickly and calmly.

The pattern to follow is called the order of methods of rescue: **reach, throw, row, go**. It starts with the easiest and most common method and progresses to the most difficult and rare. (Maintain your **own** safety at all times!)

- 1. Reach**      The most drownings occur within 7 metres of safety. One reaches out to the victim with a hand or leg, or any available object, like an oar, paddle, tree branch, towel, etc.
- 2. Throw**      If the victim is beyond reach, try a throwing rescue. A float with a line is best. But anything that floats that is big enough to support the victim life jacket, tyres, inflated tube – will do.
- 3. Row**        If the victim is too far from the shore for reaching or throwing to be effective, then use a boat, if one is available.
- 4. Go**         A **go** rescue is a swimming rescue. It is best performed with some type of floating support and should not be considered until the faster, easier, safer methods, REACH, THROW, ROW, have been rejected as unsuitable.

## **CAPSIZE DRILL:**

There are now three things you must **NOT** do:

- Panic
- Swim for shore
- Argue over whose fault it was

Here, on the other hand, are things you should do :

- Stay with the boat, however unattractive it may look at the moment. Most modern boats have built-in buoyancy and will not sink. If you hang on, neither will you.
- Slip into your lifejackets if you are not already wearing one.
- Now, count heads. Is everyone safe and ready for action? Does anyone need help?
- If you have capsized close to shore, you may be able to get a line on the boat and work it into shallow water, then right it in relative comfort and safety.
- If rescue vessel is approaching, stand by to co-operate with the crew when they arrive.

If your boat is in deep water or a long way from shore or if there is no help on the way, and if everyone is in good shape, you can have a go at righting the boat yourself. Round up all loose equipment floating around that someone forgot to secure and secure it. Next, work the boat until the bows are into the wind, stand on the tip of the centreboard and heave down on one gunwale. The boat may slowly come erect. If it does, it's bailing time. Bail vigorously with a bailing scoop, can, bucket or bilge pump, assuming any of these survived the capsize. If nothing did, bail by hand. Some cockpits are self-bailing. When the boat is stable and water mostly gone, climb on board over the stern.

**Special Caution:** Don't try and swim ashore for help unless the beach is very close. Even if you're a good swimmer, you may not make it – especially if the water is cold or rough.

**Exceptions:** If the boat is on fire or if it is drifting towards a dam spillway or dangerous surf, you won't have a choice. Get to shore.